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/ [ITCS209 Object oriented Programming](#) / [Quiz](#) / [Quiz3 @14:30 - 14:45 \(15 minutes\)](#)

**Started on** Friday, 8 May 2020, 2:31 PM

**State** Finished

**Completed on** Friday, 8 May 2020, 2:40 PM

**Time taken** 9 mins 12 secs

**Grade** 8.00 out of 10.00 (80%)

Question **1**

Correct

Mark 1.00 out of 1.00

Polymorphism supports \_\_\_\_\_, which is several methods with the same name but different parameters (or arguments).

Select one:

- ☐ a. Overacting
- ☐ b. Overclocking
- ☐ c. Overriding
- ☒ d. Overloading ✓

Your answer is correct.

The correct answer is: Overloading

Question **2**

Correct

Mark 1.00 out of 1.00

```
public class Student extends Person extends Undergraduate{  
  
}
```

From the class declaration above, is it valid?

Select one:

- ☒ a. No, Java does NOT support multiple inheritance. ✓
- ☐ b. Yes, but it will generate some warnings.
- ☐ c. Yes, multiple inheritance is allowed.
- ☐ d. Maybe. It depends on the system running it.

Your answer is correct.

The correct answer is: No, Java does NOT support multiple inheritance.

Question **3**

Incorrect

Mark 0.00 out of 1.00

What is the output of the following source code?

```
class A{

    public A(){    // constructor
        System.out.print(1);
    }
}

class B extends A {

    public B(){    // constructor
        super();
        System.out.print(2);
    }
}

public class Main {
    public static void main(String[] args) {
        B b = new B();
        A a = new A();
    }
}
```

Select one:

- ☐ a. 121
- ☐ b. 21
- ☐ c. 12
- ☒ d. 112 ✖

Your answer is incorrect.

The correct answer is: 121

Question **4**

Correct

Mark 1.00 out of 1.00

What is the runtime complexity of the bubble sort algorithm?

Select one:

- ☐ a.  $O(N \log N)$
- ☐ b.  $O(\log N)$
- ☐ c.  $O(N)$
- ☒ d.  $O(N^2)$  ✓

Your answer is correct.

The correct answer is:  $O(N^2)$

Question **5**

Correct

Mark 1.00 out of 1.00

What is runtime complexity of the binary search algorithm?

Select one:

- ☒ a.  $O(\log N)$  ✓
- ☐ b.  $O(N^2)$
- ☐ c.  $O(N)$
- ☐ d.  $O(N \log N)$

Your answer is correct.

The correct answer is:  $O(\log N)$

Question **6**

Incorrect

Mark 0.00 out of 1.00

An **aggregation relationship** is used when the relationship between two classes is a(n) \_\_\_\_\_ relationship.

Select one:

- ☐ a. "USES"
- ☒ b. "PART-OF-A" ❌
- ☐ c. "IS-A"
- ☐ d. "HAS-A"

Your answer is incorrect.

The correct answer is: "HAS-A"

Question **7**

Correct

Mark 1.00 out of 1.00

Which statement is **INCORRECT** about interface?

Select one:

- ☒ a. A Class can implement only one interface. ✔️
- ☐ b. All methods of an Interface are abstract.
- ☐ c. An Interface cannot contain constructors.
- ☐ d. An Interface cannot have instance variables.

Your answer is correct.

The correct answer is: A Class can implement only one interface.

Question **8**

Correct

Mark 1.00 out of 1.00

What is the output of the program below?

```
public class Main {  
    public static void main(String[] args) {  
        int[] nums = {1, 2, 3, 4};  
        try{  
            System.out.println(nums[4]);  
        } catch(IndexOutOfBoundsException e){  
            System.out.println("Index Exception");  
        } catch(Exception e){  
            System.out.println("General Exception");  
        }  
    }  
}
```

Select one:

- ☐ a. General Exception
- ☐ b. 4
- ☒ c. Index Exception ✓
- ☐ d. Compilation Error

Your answer is correct.

The correct answer is: Index Exception

## Question 9

Correct

Mark 1.00 out of 1.00

Consider **square numbers** defined as follows (for positive integers):

<code>square(1) = 1</code>
<code>square(N) = square(N-1) + 2N -1</code>

Which Java method below successfully implements this definition?

Select one:

☐ a.

<pre>int square( int N ) {     if ( N == 1 )     {         return 1;     }     else     {         return square(N);     } }</pre>

☐ b.

<pre>int square( int N ) {     if ( N &lt; 1 )     {         return 1;     }     else     {         return N*N;     } }</pre>

☐ c.

```
int square( int N )
{
    if ( N = 1 )
    {
        return 1;
    }
    else
    {
        return square(N-1) + 2*N - 1;
    }
}
```

☒ d.

```
int square( int N )
{
    if ( N == 1 )
    {
        return 1;
    }
    else
    {
        return square(N-1) + 2*N - 1;
    }
}
```



Your answer is correct.

The correct answer is:

```
int square( int N )
{
    if ( N == 1 )
    {
        return 1;
    }
    else
    {
        return square(N-1) + 2*N - 1;
    }
}
```



Question **10**

Correct

Mark 1.00 out of 1.00

Which of these packages contain classes and interfaces used for input & output operations of a program?

Select one:

- ☐ a. java.util
- ☒ b. java.io ✓
- ☐ c. java.lang
- ☐ d. All of the mentioned

Your answer is correct.

The correct answer is: java.io